Sharks in the Salish Sea: Broad- and fine-scale phlylogeography of the spiny dogfish *(Squalus acanthias)*

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Fisheries worldwide have been the focus of much scrutiny in recent years due to the collapse of several large, economically important stocks. Shark species may be particularly vulnerable, as they exhibit slow growth, long time to maturity, and low fecundity. Spiny dogfish (Squalus acanthias) is widely distributed in temperate regions of the world's oceans, and is abundant in the northeast Pacific and the Salish Sea. With a developing fishery in the area, concerns are mounting that dogfish may become as overexploited here as in the North Atlantic, with later maturation and longer life-span in Pacific dogfish adding to their potential vulnerability. In a collaborative project, we are investigating genetic and demographic differentiation among dogfish populations. Sequence variation in the mitochondrial D-loop revealed two major clades, one in the north Pacific, corresponding to populations with long life-span and late maturation, and one in the south Pacific and Atlantic, which consisted of shorter-lived and earlier maturing populations. On a smaller geographic scale, we are also investigating the population structure of dogfish in the north-east Pacific, in particular in Puget Sound and the Strait of Georgia. Such a detailed understanding of the genetic structure is important for conservation and effective management of dogfish.